

# What! Land with the autopilot on?

Of course, landing with the help of the autopilot isn't accepted practice today. But it soon may be—if a new Honeywell experimental device, called "Easy Joe," lives up to its promise. In flight tests,"Easy Joe" not only has shown

the way to easier, safer landings, but has made manyother phases of flight easier—including takeoff, trim adjustment and instrument approach. "Fasy loc" is an electronic steering device that

Lasy Joe is an electronic steering device inat works with the electronic autopilot. Built into the control column, "Easy Joe" preserves the natural feel of the airplane, even with the autopilot engaged. This means the pilot never has to "fight" the autopilot. Instead, when he indicates what he wants the plane to do, the autopilot jumps in and handles the heavy work. The result,

test pilots say, is that "Easy Joe" gives them the feel of a top-norch power boost system combined with autopilot stability. Another desirable feature of this remarkable

new system is that it reduces cockpit space needed for autopilot equipment. This means "Easy Joe" will be ideal for installation in fighters and helicopters, as well as for larger bombertype aircraft.

Experiments to improve aircraft control—like the "Basy Joe" project—are constantly being made by Honeywell engineers. We expect to conduct many others in the years to come—because automatic control is such an important part of aviation progress. And automatic control is Honeywell's business.

AERONAUTICAL DIVISION

MINNEAPOLIS-HONEYWELL . MINNEAPOLIS 13, MINN.



Höneywell Aeronautical Controls



# **EEMCO** technical bulletin

# Ratary Actuator Package Advances Automatic Flight

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Technical Data: Radio poun filter se apopedance with Operates ye ambient temperature of Output r p m 2500 at 3 suchpound load Weight complete -- Today's impossible to practical tonal actuators (hought impossible

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Company, Taratan S, New Jones

# Aviation Week

Volume 55 Scotenber 24, 1951 Production for Air Power

Suckground for Production. Lord Beldily Choke Vet Foter. 4 All Technology Not Morrord ...... 225 miss December Production Facilities Expossion

Aircraft the Nory in Harrison 55 Nory's North Chenging With Nove Hole, 40 Subcontracting Beauty for Sabpareguring Aircraft Manufacturers o Independenting Specials the West: 160 Military View of Subcontracting 174

Lorson of Major Photo-Report on Expositing Production Tools & Techniques Automotive Manufacturers Newholk New Monhotes & Markedy. Pleas for Engine Photo. . . . Complete Editorial Index . . . . 209 New of the Work

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ItA NEW!

A Continuous Duty BLOWER MOTOR in an Intermittent Duty Frome Size . . .



comes narkaged in a totally enclosed, explosion proof case, 2-11/16 diameter . . . and without new troublesame estimated or internal resolute Fan. This Blower \_\_\_\_\_

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MANUFACTURING CORPORATION 36-01 33 STREET, LONG ISLAND CITY 6, N.Y. OSCAGO 26 White 2 572

ANATION WITE, Suppose 24, 1951

# Background for Production

# Rapid Build-Up Clashes With Policy

"DON'T FUSH DEFENSE TOO HARD." This civiline output. At the sense true defense production arm government policy is defeating government's own would increase. It is a bold and staggering plan

The slow build-up should have been expected by A NATION ARMS FOR THREE REASONS. To government officials. It was by industry lenders who scalined immediately the goals were unrealistic; and who will start, or to be ready for your if it ever come The last as what the U.S. is dolar now. Other ma-Output traffs ackedules so all the things that make tions have done that in the past. But formerly a nation and in the resources needed to produce those trols, Today-in the age of uplit-second sir worker-an materials, please offense is the only defense. The U. S. most prepare to \* Anfonces. Less than \$5000 amonft will be delicated it will ever home to field either. · Engage. Shortage is scale in both jet and parton high power models. It will not one before late 1952.

fight on offensive as well to defended top-with no proof The seduction in government plenning cycles that policy. If we built a base defence/any mechans of the expense of the civilius accrossy and war saver carne. we would lower descendly our standard of favour and

THIS OUAL ECONOMY concept explans why the reformative comparies are being pergetted to use source

AMAYROW Waxx for this issue federanton corpored belong as some that civilian from set a "his short" Careful effice of official actions and statements inmr. official alasters assuredly believe as well acouthis extra productive especity to take up the slack of the sussing defence economy It is a breath takingly ambitious scheme which may

### I. The Duol Frances

ample space for persons production.

COVERNMENT IS TAKING A CALCULATED rate on the plant for expanded defense resolution. It is not only a religious not. It is an economic sole While the risk is frightnesse, at the same time it indiputes a faith in Arrengen alrights to marchane Covernment planners are reported to believe we can too on ever-everine obdies economy with an even more defence economy, and make the two economists No other nation in history but ever been able to do that successfully. This policy means no some cubbacks in civilian production you, eventually a rise in

doubled since the summer of 1990 on some steam, it

\* Resources: Machine tool shortage is slowing all non-

now, more will be most alcopped next year. Plant com-

THE U. S. MAY BE PRICING ITSULF OUT of The New states officially that the premer cost of its planes now a \$500,000 to \$900,000 as newlest should Our sacce of An Force ridge engineers costs there countries of a suffices dedices. The World West II Novikes bombught cost short \$2,500, a competing bombushs. admittedly far reperies, new costs more than \$250,000

How his on Air Force can we hulled at those swized? That's what top military and Congressional leaders are wondering, Shretforntly, Communicant representation One of the main seasons for the astometrue prices is

greater civilian production is the antidote to inflation Production is increasing when menured in dollars For they are inflored defined The policy of a large civilson economy plus a large deferrar economy feeds inflation, many thousand men in

RUSSIA MAY WORKY about relation, too. But in my Sovet infloberacy trends. Because of infutiously tendencies in the persent policies, represented thickers not yet find the stakes too high in the graphle on the dual economy. If they do, they will certail creatly civilian output in favor of re-Messwhile, been it how the dual economy concert

II Airfromes

THE REE OF THREE and work out under persent conditions. Manufacturers have classed they con tools readed too the first you after expenses was reduced triple again the second year, and so on

plants. Some phram important is the build up are in But too many others East, East, East, East, B.C. BATA PRES PRIA PRO PR PRIMARS to the sun early states of volume production.

out." Rather, it is speed out, with new plants bear opened to turn out about already in production at on ictive playte. That broadens the nendartree hore in being attempted in the same way as an authories, with

defense reuge st well at an economic reason

III. Engines EXPANSION IN THE ENGINE INDUSTRY is schedules. But existing enemy plants can't handle the The rallitary let itself get despressiv low in engine production recorrers. That's why the automotive plants Automotive plants manufacturing engines not cells broaden the productive best, they are absolutely

IV. Equipment AVIONIC EDITIFATION PRODUCTION A bright spot in the manufacturing michael reditory him-

But they sho adred that in some extremes the only avianic equipment they can get to obsolutent or does not meet high standards of reliability. raditory weats is little past the laboratory stage

V. Production Resources

MACHINE TOOL SHORTAGES are with in agent reast sensor. Then we didn't have the plants to hold This tree we have plants ready to moduce and there is a reservoir of trained labor that is being recruited rapidly. So the shortage of tools is felt immediately.

was here been of immerse help. Het tooling needs have MATERIAL CONTROLS we still too new to have Materials are short for another mason. Become this

PLANT SPACE IS SHORT in one respect, not in another. World Wor II plosts soc not all adequate for

But the plants themselves need addition, such as electropies buildings and let engine test blocks that on

of alest smoot. Without now alests, a wor or further

resustation would force defeate work into the bar conon countrally roughly enough to most the higher That is what government planners are trying to avoid.

(News of the Week on Pure 200)









figure contest and operands then across salid to disposal pours. His chiese capable of producing up in a hiered of chaps such mostes.

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management and operation, University of Olibbane, Norman, Ohio

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wheels have been functioning since 1942. Courses are new remarked in tenderitation, everload flight test engi-Sobre. G-E existing field service representatives owner the vital sauty is the world, are olways evoluble.

For quality products and dependable service, sall on the company and Electric swinting operating or write General Electric Company,

AIRCRAFT GAS TURBINES

GENERAL (28) ELECTRIC

### Money for Production Air Force Will Obligate:

Below are obligations contropheted under the 1952 (except) freely or leading. The House has approved a \$19,

USAF's expenditure dame the 1942 family one will represent \$11,775,000,000, all of which will be covered

Naval Ariation Will Obligate

Bidow and obligations continues had a wader the 1992 (current) fixed year appropriation of \$4,023,993,000 for Neval Avortion that has been approved by the House and Scoate. In addition, all of the extraprece hated will be shighly for

Not included below see News) Arketina obligations for flight and station, operations and selectables. The figure include a communities's small shot for personnel, supplies, and other everland.

Army Will Obligate

Foreign Aid Obligations

(Aviation Equipment to be purchased by USAF and Navy)

The Buyers

II S AIR FORCE PAGE 16

U. S. NAVY ...... PAGE 49

AMATION WEST, September 24, 1951

# PRODUCTION FOR AIR POWER The Pattern of U. S. Defense Expansion

· Was in Know, its cost in U. S. dellars still reconnected, has at least horn worth its soft on one course. It has sid this nation, and indeed the West-@ Scored into a collective delegae, the United Nations have finally lolated

tent has now here recen without doubt.

bon's legal pooretine military budget. trader-bossy pt Berlin, Yogoshiwa and Indicates of Congressional enthusi-

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hilling currently contravoluted ones to ► Roles & MindistrucThe very conplants of the shrind marrest in southern 360 800 would purchase 5,690 complete reserved for within reason and once

New-News Air, on the other hand,

contemplates a \$4,497,869,000 specific

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Production Problems

1. Manpower

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Ossified excusers are score For Officials concerned with reaching tool-ANATION WEEK, Summier 25, 1991

between Sen Diere and Ft Worth. offers to take your broad of available closers at the plant which is succeptable

4. Brick & Mortse

5. Electronics

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Exceptions to the rule see found on

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Joseph World

# Air Force Contracts

### AIR FORCE

### How Combat Plans Determine Production where it could be branched with

With more funds available, USAF can diversify its output instead of concentrating on strategic hombers.

· Type of Air Force production was to 119 wines. The is about one-half settled several versa and with the the peak World War II strength. necessary-and vital-decision to Lone Range Weapons engineer knowner bombins · That may tree to alex. Pleas now After World Wor II, the Joint Chiefs

of Staff were faced with a figured are paying off with delineries of all types only a little heliant schedule · With more money, and the Stratedectade USAF has been often stad gic Air Command still buying time, the Air Force now one peth peodoc The drouge has proved were. United tion on varied trues for well-regaded

ay power. By Ben S. Lee determent to methorist of a musor conflict. Land & Masey-Eureban on studehad churbed to 6.1 Today of coverage of facts concerned and concerned. The being were stepped up from "us of Dec

complish such a defrarave scores are mobiletee. Ow yourseen of the Countilant Value 8.16 with its capability of imdelivery ashednics to USAF of each 90 \* Schedules Up-Dunng fixed 1952, Au well are already unchestion reluctable

Manko Norte femancias fina con-Congress has so far spensoristed Stabilly over \$11 billion in Soul your width imagines, these weapons are bere-1852 to sense dellectors the con-Bland build-up to the 95 year stead. Both the Bell X-1 and Dourbe Stoadditional \$5 billion to confiner buildsocket, for example, could costly be converted to syrapon status-equipped

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So far, there are seven much make

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ANIATION WEST, September 24, 1951

Air Defense

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Considered Value Till

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Trainers [construct of the commercial 243] Advenced transcr in production is the North American V.D., nothers de-

Std snother plane in many producof the F-50, the T-33 is in positiones at Louiseouth Burbani, Calif., plant.



Linison Air Reseme Cremma strengt is the only wheel currently leabling attends specifically Schoduled shortly, however, is a retro-liting program for G-47 awards to felnoffication of obsessment C-47 trans-

ports to F series until Chase Averall outs late, evolutions at Willow Burn In the Breen field, Air Force has solved digitals less than 200 de Hood. will be produced at do likevilland's Tu-



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# Where Buying Feeds Production

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· Boring to redecement the B-47 . Houghto and Lockbook our customs center studies and hore completed F Two Changes-New procurement pro-Constraint Milling and Markins is

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AVEATION WIRE, September 34, 1951



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# ...so we moved

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> -E. C. Deseposy AVAILEN WEE, September 24, 1981



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VALVE DIVISION

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AVIATION WISE, September 24, 1951

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# SLIP RING COMMUTATORS



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Mr. S. A. Groupens, P.00 Lt Col J A Hewest, Capt T S Service, St E E Willer, Mr C H, Name Nig S II From Capt J S, Camber Dech, Mr F J District, Mr F A Qualital Mendica Brench

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Toiser, Tomport & Sould Arrests les, H 12, H 45D, YH 18, YH 21, H 31A, YH 18, H 25A, H 23, Y1424 L 30A, 5G-179C, L 70A, L 18C Me: C F Serder Lt G G Whatel, 50: 5 Serdy, B , YOLISA, YOLISE, YOLIZA, MC, YOLIA, SABA, KU 20: YOLIZA, G19, G12 CC 30 YC 174, C 179, C 171 C Cd H W Leshod Jr C 158A, C 121C, C 97, C 124

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ADDRAFT AND MISSIES SECTION AUGUNES & MODERNATION lol G. F. Nedag, Chief Col J K. Key, Chel D T Willrama, Cor Ave to Chell

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AVIATION WEEK Suntender 25, 1951



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# MARTIN P5M-1 MARLINS

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A E Nichals, Aut Cloud A E Nichals, Aut to Ched Col W. E Kelly, Mr. E C Knith, b E E Lark, Production Ages. Rador, Mr. E. M. Griffey, 34 K G Springer, Mrs. P. S. Clefood, supplies Call today?

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# Fletcher Aviation Corporation

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### Aircraft the Air Force Buys . . .









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AVIATION WELK, September 24, 1951

# Aircraft the Air Force Buys . . .











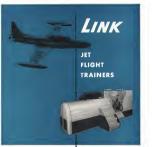






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For 20 years the more Link has represented leadership in With the coming of the electronic age, it is natural that Link should lead the way with new type jet trainers and

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ANIATION WEEK, September 24, 1951



# Professed by Passengers and Pellots

The World Own

# Navy's Needs Changing With New Role

Production increase retarded until ships of the fleet are ready for the new types of sircraft.

\*The Navy's sole as worker has result of the fixed 1952 hodget, plus the changed. With no surface fleet to tion. The concept of building a per-

I. Strength

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### SERVING EVERY 4 COMPLETE TOOL LINES INDUSTRIAL NEED





AIRCRAFT MANUFACTURERS . Page 56 AVIONIC MANUFACTURE ... Page 101 GUIDED MISSILE

ANADON WHE Seconds 24, 1851

# AIRCRAFT MANUFACTURERS

Progress Report on Expanding Production Essentials for higher ontnot at bond, if prop-

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By Badell Medley Two tooks here been given the airestit industry by the President of the The phinestie is fulfilly elevely sucted.

cet in dollar values and in uninfer of Appropriations for scientit procuremerel, for instead, air expected to in-course from \$21 billion in food one 1990 and \$11.3 billion in 1991 to \$14.7 isolated facts released by officials at for produces orditory mouth Hose. Another indication on to just how

To build applaces, there there are seplot: technics, casternic, and men The more problem web established Plants, as we shall see, may be kept The public expects that cook produclouner before the new objectives can resolving rest take their place. And

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"Production constity" in runs of a sudden was well, for such a few months.



For this existencing engagement achievement the New Jersey Ween of the Ale Press Association nonsented to McStrephall their 1951 Airpover Award.

Mase AIRCRAFT CO., Inc. WEST TRENTON, NEW JERSEY

need jet became you have ... that time in the history



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### U. S. Aircraft Industry\*

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A CARLOAD OF COMFORT for men who ground-test lets



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ANATION WEEK, Surrenber 24, 1955





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## make the hard jobs easy

ON AVIATION PRODUCTION LINES, Charry Mind Boots are a "Stondard " Guided in that development by close enegatives with the highless of America's electeds, Charry Streets have searred characteristics than pole from the best bland rivers smallable. Designed with auctive shock appendixs for promper, Kaleson Johns. Dangmed with greater hele-diometer and grap-

length televonors for more lettively on all types of as-CHIERY RIVET CO. 231 Winster St. Les Acardes 13, Call. Burt 1,116 Planes and my further information describes.

sended take Designed in more than beaut, agreeing range of dispeters, and with the greatest material Swinner range. Whether for connobly at repair, deperiod on Cherry Streets used Cherry Tools for the bear blind fastering job. Available wherever corrects are FOR THE CHERRY PAYET THAT CONDENSED CATA.

## Cherry Livet

A DIVISION OF TOWNSEND COMPANY

CHIEFF HAVES AND APPROVED BY IL & MARY IS A MILE THREE AND STATE ASSOCIATION ASSOCIATION AND RESIDENCE

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In sweekly, however, there is mo AVAITION WIEK, Suppositor 26, 1550

PRESSURE SWITCHES Safer Than Ever!

Greater sofety for your planes is the goal of every Accorded desurned control. To cover every pessible continuency, our instrument execulists have developed bundreds of different types of controls. Below are a few typical examples of Aerotec creasure ewitches covering a host of applications. Aerotec is expelving thousands of controls of those types to meet today's demands They are obving an important part in relaine the high standards.



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AMERICANT REPRESENTATIVES

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Designers and Magnifectures of Automatic Countrils—Value Regulating Balant and Cher's Types-Frequer Souther Gaps, Altitude, Billionetial and Obesi Types: First Souther Try, buttom of side mounted—Gagle, Dust of Trade

CT bullets a semple rivets



## SWITCHIES are known by the customers they serve

They rested our products. Then they Their experiences with Melerron instruments

is peopl of this statement.

Whenever a centers cally for control. estuated by treasure changes, there is a MELETRON product to handle

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Aprillored: J. A. Wellberr Co., broug Fold Rec. 13, booth A.

What is needed in the Defense Mobilisation Agencies is a tree will so

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## Complete Systems for Aircraft

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Hermetically Sealed TEMPERATURE INDICATORS TO "AN" AND AIR FORCE SPECIFICATIONS THERMOCOUPLE THERMOMETERS



















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When it comes to performing choose about a place, a presumpte system does a real service entrant's by Mark mans, a presumbt entrant's by Mark mans, a presumbt entrant's by Mark mans, as presumed to the competition which is followed in the types of year terms. Attends as a longer a problem. The new laptimetable Kodde congresses can provide plenty of pressum at 185000 Sets and

nare moteries, sie fesses, cheefs volves, yrbel volves with to assistant the correct pressure at all tenses. Out fall information about reseast ofvances in the presentate field. Call or write Hiddle today.

Raddo

Walter Kidde & Company, Inc., 919 Main Street, Belleville 9, N. J. Walter Eide & Company of Conets, Ltd., Marryol, P. G. produce more ascerdi finite. The organ sastion is on hand So is most of the knowledge as to how much as needed and how at could be garde switchild; more questly. What is helding to the lack to get the half seelly rolling

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Military deliveries as June, 1958 were \$1,50,000 fig. Allocating for a resembled.

# to answer the HOT question... specify LEBANON HEAT-RESISTANT Contribugal Castings

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BUST PROOFING PERMADENE! # a piec abosebase cost-THE EMOIL GRANODENETS & MARKET neserion phosphore corring chemical,

PROTECTION FOR FRICTION SURFACES

The eiled "THEEMOH-GRANGOINE" combets and other robbing parts, allows reduces the danger of sculling, scoring, goffing, weblam and tearing.

IMPROVED DRAWING AND COLD FORMING GRANDDRAW" forms on pickled metare a rightly-board afficure, sinc-

improves drawing, and lengthern die life. ired for description felders and Generousal first for decorption folders and Generousal specifications about on the above absurable. Write or call for more substitution on those

Pleasured and Development Save 2004 AMERICAN CHEMICAL PAINT COMPANY

four different announter agent towards services weight or 6,200 to 4,500

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A result cationity of total publishes debe about 4,530 with a weight of about P Estimate board on grafishin sales of leading newspectures. Presently available usles data reducate

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A total of 11 milion is of partners



A COOL HEAD IN A HOT SHIP

Commo grande

Looking high-speed fighters or bombers in more than a namer of tree custon. It's encrited for navient Looking requirement of combin accounts one severe. Highly efficient, compact and halo weight refragration units are arrefed to keep sudges temperatures

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### AUTOMOTIVE MANUFACTURERS

#### Planned Aircraft Production In Auto Industry

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## Auto Industry Returns to Its Wartime Job

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A TABULATION of surcusated products which the automotive manufacturers produced, leads off with 455,522 agreed engine. 22,160 consider anythings, 4,260 children and 219 believedon since with a large exactive of other account products and related com-

COME of those molude anotati propolices, 255,518, settomobio S faci treks, 981,950; bean bumbs (V-) and sixular type essentra), 1292; racket maters, \$177,000; rankets, 2,850,000; reachine gams, 2-276,294, applied hashed mate, 50,136,000 pa, ft., sudgr convention.

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ANATION WEEK, September 24, 1951

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LATEST IN HEAT TRANSFER



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SHAFER BEARING CORPORATION



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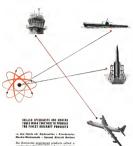
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Air Associates' wide expensage and expanded. lacilities are available to hele soles year denies and modernes moblems. An vaccour to Tetesbero will receive prompt attenbor.





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►Tker Couplete Pleses-Acrisms contracts that for call for there conbut by astronetic builder, Crosul Mates and Kriger Peter orasectively

Chrysler Corp.

Ford Motor Co. Rivers use's setamotive shout: unciect in dollar value, at least ranges

6.3-million sq. it. Chicago plant when Doden best Wright curious in World

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FOR SETTER CONTROLS THROUGH SETTER RELAYS ...



Expresentatives in Principal Error of \$1.5 and Consula



## Micraft -- Small, light ...MICRO Precision Switches loom BIG in exacting design plans!

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Occupied to conform to rigid "AN", "MIL" and "IAN' specifications, these profes MICHO susp-

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Perhaps you need a new switch . . . for one of these or some entirely different application. On the drawice board and in the expressental stage at MICHO SWITCH these are always new switches for aircraft. MICEO sales engineers are hearted near you to conwalt and help you in developing just the swetch you These three small MICRO Precision Switches are the basic switch in many MICRO units which meet exacting aircraft requirements.

size are three MKBO precums satisfies which are mightly becoming stendard for

(AN 2200-D. In but 196" four and scratte .000 B: It has been racconfully seed for trical sub-assembles for alreaft. Next was to the MICEO VI 1 (AN 2014-D

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Lincoln-Mercury delicion is building

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Three hig programs are the major exent production acquirements of Gen-About 1.5-codion up ft. of first sace is these new elects under one Wright Suppliese jet engene, at Place, Much and at a loge somubly plant at case which in the these plants of weal production, with other CM devision energely Oldsnoble and Brown

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WITH VAPOR

MULTI-PURPOSE CONTROL SWITCH a pilot
can control

temperatures

pecade, System Volume 118 V

BETWEEN 40 AND

VAPOR REATING CORPORATION

## Plus Values of CLARE when unfailing

## **RELAYS** make them 1"choice performance is a "must".



#### These two hermetically sealed CLARE RELAYS not only meet, but surpass, stringent requirements for airhorne military use.

the accorders have of its crew, may depend aron the unfulfred perference of a relay, the plus values of a CLARE RELAY are of

These two hermetically scaled CLARE Type "R" Below were dosignal to meet autorus servos socialestiem to difficult and extrine that several months were required to run the rapid performance tests.

The CLARE standard look test, for example, made with a mass spectremeter, is much more strangest than the removation test the release these releva to exceed required specifications by a wide reagie,

#### This small CLASE Type "K" Relay supplies many special features responsible for the outstanding performance of these new "AN" approved relove.

The mercing "heart" of these two new . In so improved from the real annuators lone ble. 's It numbings the adventures of a tele-

rabble resons for the asserter per-



CLASS TWO "P" DELAY

## Outstanding Operational Features

CLASS Type 'N' Edgy provides process repending voltage an 85" C, and put drowing @ Leakeque Serviced to tecroinal or ter-educi in France resistances, \$2,000 magnifico. Property and and governor yet of bits to those radows he put he at AFE, of sommer

cogo 35, Minors In Coscole Coversion Line Materials, LM: Toronto 13 Cobie Address: CLARRAY.

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MET & PLEX vibration last erion and control systems. stand runges from 16 fb. to 10 fbs. nor many. shiften damping with easiliary exclusive ter \*Orestendandundarie edenantivas errestas 50% estinature addresses structural strength 700 lbs.



ROBINSON AVIATION INC.

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Hudson Motor Car Co.

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AVIATION WEEK, September 24, 1951

Auto Firms at Work on Planes . . .





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U.S. AIRFORCE Northrop Scorpion F-89 Conseder states, Early - OCO to OCO hours hands Part 750-8 used the same on N.A.S. 524 Section Forward Edge of Wing showing hav Philips hand serve made by Briles Mig. Co are used to



Aircraft are only as strong as their Festeners LES MANUFACTURING CO. ing in aircraft screws and balts.



Wires can be sided or replaced onehanded, wehers removing the bands. Spirar tension prevents condensal opening, with smootherne articlane efter. Other town couldn't for remember with ever, some, faceseer or soon on chir. Made in 7 annoted man from %4" to 2" discuster.

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#### Licensee Production Due to Be Smoother Detailed nestwar undertaid element

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Also many of GM's propagat passed



ANIATION WEEK, September 24, 1951

PARACHUTES MAKE THE DIFFERENCE!

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death

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NEW IMPROVED CIRCUIT



Expert Heat Treating

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TYPICAL APPLICATIONS

Wright Turbo-Compound Engine ... Fitchprook encour of







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#### AVIONIC EQUIPMENT





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AVIATION SUPPLY COMPANY

an Example

OF HARTWELL SERVICE

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Highest Scorers in the World's Toughest Game win with ADEL

These and senting, the world handles correlate constructions are constructed as a second of the control of the



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ANADON WILK Summber 24, 1951



# South

Aircraft Heating
Thermal Anti-icing Equipment
Inert Gas Generators



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... ULTRA-MODERN AVIATION FUELING

Cities Service loins with Eastern Air Lines. to incoverate enother erest advance

The Plat Tate see on dary new - making nomble service records. With those expendenble new mode reader. Cities Service is fasting Europea Air Lines planes or LaCoundia. Newark, and Bosson's Louis Airport, Novee before has there been ner approach to the safe, speedy, convenient feeling now made possible by Cities Service Fler Tops. here. Each one solds residence than Cirics Service is to the forefront of axiation property. Thur's why fields offering Cides Service products are winning perference sales. among those enger for reproach quality and survice.

HP SINK All have fits for our PERSONA LABOUR. Pare from fee Steph WANT TO STREET, The in gen one of many frances for age among the desired ments and definite strings of one and tobes with the

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A TEM PLATITOR PRATEINGS

AVIATION PRODUCTS

New York - Chicago

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Academies of Administration, Respondent East and New Yorks AND RESIDENCE AND ADDRESS OF STREET, & STREET, & STREET, & Construct to Colonian St. Street, St. Stree



ATTOWN BUCKS COUNTY PA



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Here's How This

## .JOY AXIVANE Aircraft Fan Solved a Problem of Unmatched Complexity

WHEN the Air Force and Conaway. The requirements for the Specificances called for three sep-





a 1100 GFN at SP B G, not as \$ 700 CEM or 40" Birth, mark on . 600 CF/C at 35" W.G. work on

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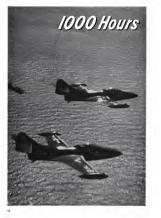
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opigenest produced by Westure Union succ 225,000 soldered joints, 20 tons of stool, 750 to of copper and copper AFIATION WEEK September 24, 1951





## Between Overhauls For J-42 Turbo-Wasp Engines



\* THE PRAYS & WHITEMEY J-42 Turbo-Wasp in the first let engine in the world to receive official apupped for 1,000 hours between averbacia-double the allowable time of any other jet engine

actual combat combiliers as well as in normal service DAY APTER DAY, 100,000 hours during the last year been in the nir on their assigned relations. And the dependability of their Turbo. Weave has been re-IN THE ROBEAN THEATER, these Punthers serving

on putstanding record of operational availability diana

And warms or contro to taking enemy fire, J-42's are riving and more proof of runnedness. Marry a flor tion," was the congress from one group of Marine

& Whiteey Alecraft is corrying on a confition-over

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TYPICAL APPLICATIONS

Electrofilm



When or way

TITE LABREL CANTO

### Fastener Problem of the Month

SEPTEMBER, 1951



YOU MAY HAVE a foreign

application in found in cockpits or

SOLUTION: Protection agricult



year lag is interestely bound up with Technology vs. Production

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Appriler of these "per-production" entor, and the Air Force efforts to

P Small Moder, Small Reserveditors be neither rabuserists; you radily on some to be ever costly. They will he completely foreign to post produc-

As the AF property reducte, the secent is on ninestrusion and sob-AVIATION WEEK, Suprember \$4, 1955



## PAA adds 3 stations to global radio net

there new surmous are set up as keep-th-tile made, now munded through in the Belation Coago, Subburr in South- on World Airways system

The Collins high frequency radio equipment orn Rhodesia, and Johnsonsburg, South Africa. Irefeded for each storice are a College PMD-10 Automort transmisser and four AINA tests, now mundered themselves the Pan Armer

For land based radio correspondentions, 2's . .



COLLINS RADIO COMPANY, Ceder Repids, Iowe 11 W. 49ed St., NEW YORK 16 1907 bring Blod., BALLAS 2

DIEC IN COLUMN ANN. SERBARR



A fast, cary method of cleaning dirts

valves. Removes carbon and scale quickly-thoroughly. For valves up to 216' diameter and 16' stern Corner complete with air gauge cabinet and 5 lbs. abrasives. Operates on 120 lbs. constant or reserves. Comes with or without cabinet. PERFECTED

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WET VALVE ern, hondy, time-anylou wethod of relocing of croth motor FACE GRINDING MACHINE soles seets with occupant ... wither cost handened shed. "Mere Deller Volue Then Ever Lefers" become or Stellies. The driving extends in advantable to once caude. Habanned meter cources on AC or DC Not

finish and factory renousers. Wet exists values valve ends, teppots and rocker arms. It's Sold only through Authorized SIOUX Distributors

STANDARD THE WORLD OVER ALBERTSON & CO., INC. -SIOUX CITY, IOWA, U. S. A. to feel that the expursion of memoria The Stanford report doctage: "Con-

have read worse with young wal-

average electronic production late washer can be quickly truthed to some difficulty is that in many cases it is not quite certain yet what the workers The Unknown-In the case of ashneeds, most are still in the laborator.

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and with little or no charges. Others

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## SHOCK and VIBRATION NEWS

MOUNTING BASES

Respirements of AN-E-19

"Baggodond" Barrywessia are

available in both the ast-demped tops and the ALL-METL tree. Arr

"Raggediand" mounting bases emigred with Barrynesets of the

in special stars to most customers

recommends - school with very

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NEW ALL-METT BARRYMOUNTS for Universal Airborne Annilections Nove desilable to Meet Shock



high-aititude, high-speed flight. Emmountage are not subject to been the performance of other mountage, quency of about 1% system per seems with low backgrouts! of Press for many

damped Type 772K covers lead ranges between in its gard 9 fts. Arr-damped Type 793K covers load ranges be-tween 4 fts. and 35 fts. A&I METL. Tone ANON cores lead ranges be IUSAFI, and MILTORIS



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715 PLIASANT ST., WATERTOWN 72, MASSACHUSETTS

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SUPPLY & STAVICE DIVISION ek airways inc. 1000 N. Clebnam, Barbark, Cristower

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The industry has getten itself usts a

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try to top the production potential of



While the need rarely prises, your CMH REX.FLEX into a knot does effurence the high degree of flexibility of this all-matel corrupted eninters steel bose. And the that make HEX-RIEX on families also afee it the shiflity to withstand extreme

Light in weight . . . bigh to streouth ... and liquid and gas tight, REX-FLEX is the answer to critical siecests anolica-

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tions where extreme flexibility must be combined with rurned durability CMH REX-FLEX flexible metal hose products are made in a variety of forms

that include decting, flexible connectors. bellows and braided and unbenided hose types that include C.A.A. approved freeroof fact and oil line have on semblies For complete information, write soday

partinger year problem.

CHICAGO METAL HOSE Corporation 1992 S. Tried Ann. - Hoywood, H. - Floots et Maywood, Highr, Pack Fells, and Savanne, H. Is Castelle: Georgies Metal Hose Co., 134, Brangers, Oct.

ONE DEPENDABLE SOURCE for every flexible metel hese requirement erwinted and Companiel Strain State Som is a Raddy of Mands - Separation in him for Piping Systems relation little and Some Belless - Inchin Mariel Goody's and Konney - Spiceables of These Communication

AVIATION WEST, Sectional 24, 1951

#### Plants and Equipment Parrial indicates of the facilities expanded taking place in two boads are 040 These are certificates of necessity granted by the Defense Production Advansitation between Oct 20, 1990, and Aug. 18, 1951, when incomes of such certificates was suspended. Filter dollar former me the connects TIPA dended could be certified

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	Albuma's germanops serious		
	- Valedy advanta.	7,411	
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## For Avionics Expansion

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LOS ANGELES. CALIF



#### MISSILE PRODUCTION

## All Technology Not Mastered

Missile output lags not because we can't build them, but because basis policy decisions are not made.

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the Air Force is ferming its first paided stated spatient, to be equipoled with explaints, to be equipole with the Mexita Materiae native incommerce and the control of the quantity of recensive.

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The first thing that must be an explaint to the control of the state of the control of the conception.

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By David A. Anderton

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LIGHT WEIGHT TRACTION TYPE HYDRAPLIC COUPLINGS

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For procision and dependability

and dependability look to Kolisman

KOLLSMAN

INSTRUMENT CORPORATION

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long to get used to the size of energy a completely new set of sectols, but the ANATION WEEK September 24, 1951

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HOBART MODEL SUPER-666 "POWERPULL"

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Another NGC Preduct designed to fit the specific needs of the
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the Mijor Alclines at steparts thesephase the world.

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As soon on the plants lends the Pywerpull is not to it and on the job, taking over its electrical local.

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Then when roker off time anywe, it provides a continuous severe of regulated withings for anomal starting of the engines.

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\* This regged, compact used in highly measuremethic—its shape betting radios and law control of the provided in the provided in the provided in the provided in the provided color-pediated year own official color-seated elements or others the compact or others.



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Porker White-Metal Company - 2153 McKieley Ave. Erie, Penne.

PARKER Die Castinas

techniques will be different, and so will feed speeds. But there are old small once some questity production rate Arryon to those quotient, men if

Its purpose was to early 2,200 lb of structure which was 45 ft long, bad a disauctor of 5-61 ft and weighed 25,-

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Consourcedy, even though the A4 was ANATION WELK Surveyer 24, 1951



Quality control of the components of EICOR, products in majorained by innomerable imperious and tests. And such for our Acres forces-it below as produce perfect units, factor.

For example, the insulation steer (Descript) was designed and built by EICOR engineers expensive for applying high potratial stresses between certain insulated contributors. Such tests are made between high or low voluge windings and ground, from high to low volume wirelines, from held rolls as expect and hereves other men, describes on the type of the unit. Every motor and every dynamator, heren or small, come "take he" as a smarlifed unitrace as a routine part of production terring.

> Long experience in this highly speciallist field has This experience may be of considerable assistance to you when rothey electrical equipment is a factor



DINAMOTORS INVESTERS ELECTRONIC CONTROLS ALTRONATORS MOTO



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Designers and measfecturers of cus-

P. O. Say 15, Floor 7533

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\* 244 teas of various alleys. a 5.200 tons of absorbers It was estimated that 6,000 construc-

should be remembered that the figures

Mare Then Processing-that readuc-

ANNATION WITE SUREMAY 24 1951



## Outstanding **NEW JET ENGINE**

contest will be appropriately doubled by the addition

INTEGRAL AUTOMATIC ELECTRONIC CONTROL This is the first turbojet engine with a completely the attributes true test of the combined U. S. Militury Freque. Complete operation from standards to top skirade and speed is accomplished with a single cocked control - leaving the effect free to agreed to paymenton, burds series -- barrie most. The is only one of the many distinctions of the 160 which other it in the freefrom of tedey's jet propulsion field. Look for further developments about the 140 . . . is will spark a whole new group of speedier, blobperformance military alcount. Look to Westinghouse





One out of every four tons of air freight flies on SHELL AVIATION FUEL

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flies THE MOST PASSENGERS
THE MOST AIR FREIGHT

in the U.S.A. today

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## PRESSURE CHAMBER

For Explosion-Proof Testing

Adoptede to electrical intringion of the property of the prope

JANKE and COMPANY, Inc.

38-44 BAILBOAD AVENUE HACKENSACK, N. J.

Lapaid feet rockets are more or less aniation were, Superior 24, 1991

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Chula Visia, California ... 9 miles from San Diego.



#### **Expanding Facilities**

State conception of the trevendon expansion necessary in finiof projects on which the Defranc Projection Administration betweet Oct. 30, 1959 and Aug. 15, 1951 (when massive of these cett finites was ampended) granted certificates of accounty for secontard tax associanties. And this total of \$360,000,000 one new buildings and new excinement.

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## DARMELL

All Darmelf Contern force Bearing Swirel - All bonisies protess-Best-proplet by Code or rubiter treads.

# Always

DARNILL CORR LTD

N CUMPON, CHICAGO 6 N.

Continued on p. 139 . . . AVIATION WEEK, September 24, 1951

## What's doing at JACK+HEINTZ

## Generators With Identical Ratings Fitted To Job

#### Ingenuity Features J&H G29 Series Most models in the Jack & Heists

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**Expansion of Rotomotive** 

Devices To Be Doubled!

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of the subcontrators in this record are classified as awall horszence.





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Expanding Facilities . . .

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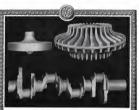
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Positive protection

ANATION WILE, September 24, 1951

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#### Expanding Facilities . . .

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AVLATION WIEK, September 24, 1951



SUBCONTRACTING ... PAGE 153

TOOLS AND TECHNIQUES PAGE 189

The Production Methods



#### SUBCONTRACTING

### Why Industry Spreads the Work

Subcontracting may be real key to rapid expansion of production in an emergency-if we can afford it.

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WILMERDING, PA.



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-it needs all your SCRAP, Now!

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ATLAS SCREW & SPECIALTY CORP.



Perfection in cleaning



## IMPORTANT

precision production

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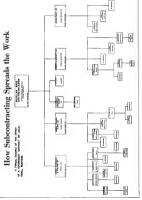
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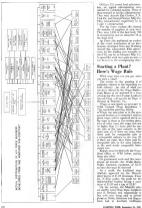






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